

# Treatment of Gonorrhea

## Overview

As part of the STD Surveillance Network (SSuN) project, staff at the Virginia Department of Health (VDH) collected enhanced surveillance data for all individuals infected with *Neisseria gonorrhoeae* (i.e. gonorrhea) in the Richmond area from 2011-2012. This included the localities of Richmond City, Chesterfield County, and Henrico County.

Sexually transmitted diseases (STDs) such as gonorrhea are reportable diseases in Virginia. This means that any medical provider or laboratory who diagnoses an individual with gonorrhea is required by law to report that case to VDH for public health surveillance purposes.\*

## Missing Treatment Information

Reporting of complete case information by providers is an issue both in Virginia and nationally. All STD case reports submitted to VDH should include the patient's name, contact information, basic demographics, diagnosis date, and treatment information. However, reporting of treatment information is often not complete or timely. For example, 39% of all gonorrhea cases diagnosed in Virginia from 2011-2012 were missing information on primary gonorrhea treatment.

### Treatment Recommendations

The current recommended treatment regimen for uncomplicated gonococcal infections of the cervix, urethra, and rectum is as follows:\*

**Ceftriaxone 250 mg as a single intramuscular dose**

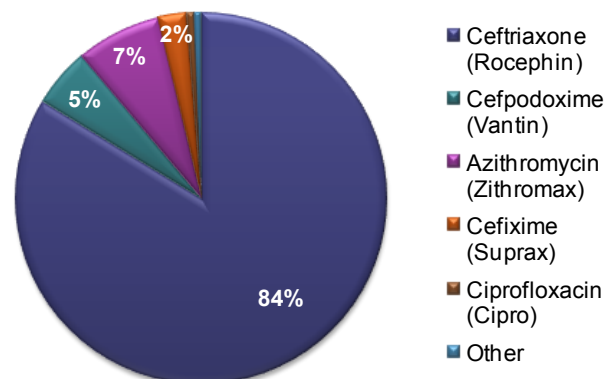
**PLUS**

**Azithromycin 1 g orally in a single dose**  
or  
**Doxycycline 100 mg orally 2x daily for 7 days**

For more information and alternative regimens, see:  
<http://www.cdc.gov/std/treatment/2010/gonococcal-infections.htm>

\* Treatment recommendations current as of August 9, 2012. This regimen is recommended for all adult and adolescent patients, regardless of travel history or sexual behavior.

Figure 1. Primary Treatment for Gonorrhea†



†Only includes cases for which some treatment information was available (i.e. excludes cases for which no treatment information was reported).

## Dual Treatment for Gonorrhea

The CDC currently recommends treating uncomplicated gonococcal infections with dual therapy consisting of ceftriaxone combined with either azithromycin or doxycycline (see sidebar). Since reporting of treatment information is often incomplete, it is difficult to assess whether or not the majority of providers are following these treatment recommendations.

Based on SSuN surveillance data, half of all gonorrhea cases diagnosed in the Richmond area from 2011-2012 were known to be treated with at least ceftriaxone. Thirty-four percent of all gonorrhea cases were known to have been treated with the recommended regimen of ceftriaxone (250 mg) and either azithromycin (1 g orally) or doxycycline (100 mg orally). Less than 1% of cases were treated with ciprofloxacin, an antibiotic no longer recommended for the treatment of gonorrhea because of high levels of gonococcal resistance to this agent. Among gonorrhea cases with known treatment information (i.e. excluding patients missing any treatment data), the proportion treated with at least ceftriaxone was 84% (Figure 1), while the proportion treated with the recommended dual therapy regimen was 57%.

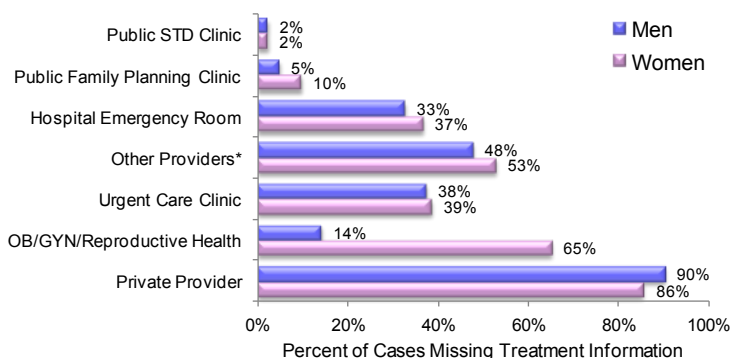
\* Case report data allows the Virginia Department of Health to accurately assess trends in disease distribution, monitor for emerging outbreaks, and plan prevention programs. More information about mandatory disease reporting and full reporting guidelines can be found in Part III of the Commonwealth of Virginia State Board of Health's Regulations for Disease Reporting and Control, available online at: <http://www.vdh.virginia.gov/epidemiology/documents/pdf/regs.pdf>

## SSuN Special Focus: Treatment of Gonorrhea

### Treatment by Provider Type

For gonorrhea cases diagnosed in the Richmond area during 2011-2012, the type of treatment given varied by the type of provider or medical facility diagnosing and treating the infection. Of those cases with known treatment information, over 90% of those diagnosed at hospital emergency rooms, STD clinics, and family planning clinics were treated with ceftriaxone. Eighty-seven percent of cases diagnosed at urgent care clinics were treated with ceftriaxone, while only 37% of those diagnosed at OB/GYN facilities were treated with ceftriaxone (Table 1). Cases diagnosed at OB/GYN facilities were more likely to be treated with cefpodoxime (Vantin) or azithromycin alone than were cases diagnosed at any other type of medical facility.

Figure 2. Gonorrhea Cases Missing Treatment Information by Provider Type



### What is SSuN? A Quick Overview

The STD Surveillance Network (SSuN) is an enhanced surveillance project sponsored by the Centers for Disease Control and Prevention (CDC). The purpose of SSuN is to fill critical gaps in national surveillance and improve the capacity of national, state, and local sexually transmitted disease (STD) programs.

SSuN has two main components: STD clinic surveillance and *Neisseria gonorrhea* (NG) population surveillance. The former involves collecting enhanced information on patients presenting to STD clinics, while the latter involves interviewing patients diagnosed with gonorrhea in the general population. The data captured as part of SSuN include information not only on STD diagnoses, but also on patient demographics, disease symptoms, treatment, and high-risk behaviors.

Twelve sites across the United States now participate in these enhanced surveillance activities, including 43 STD clinics in 116 counties. Nationally, SSuN now captures information on approximately 20% of all gonorrhea cases diagnosed annually.

In Virginia, four localities participate in the SSuN project: Richmond City, Chesterfield County, and Henrico County have participated since 2006, while Alexandria City started participation in late 2012. Enhanced surveillance data is captured for approximately 6,000 STD clinic visits and over 1,000 cases of gonorrhea each year in Virginia.

Missing information was more common for cases diagnosed by private physicians or facilities compared to public clinics (Figure 2). While only 2% of cases diagnosed in public STD clinics were missing treatment information, 35% of those diagnosed by hospital emergency rooms and 88% of those diagnosed by private physicians were missing this information.

Table 1. Percent of Gonorrhea Cases Treated with Various Antibiotics by Provider Type

Provider Type	Ceftriaxone (Rocephin)	Azithromycin (Zithromax)	Cefpodoxime (Vantin)	Cefixime (Suprax)	Ciprofloxacin (Cipro)	Other Treatment	Total* (N)
Public Family Planning Clinic	96.8%	0.0%	0.0%	3.2%	0.0%	0.0%	63
Public STD Clinic	92.9%	5.3%	0.0%	1.6%	0.0%	0.2%	438
Hospital Emergency Room	92.2%	4.3%	1.0%	0.3%	1.3%	1.0%	398
Urgent Care Clinic	87.2%	6.4%	1.8%	2.8%	1.8%	0.0%	109
Other Providers <sup>†</sup>	81.0%	8.9%	3.8%	5.1%	1.3%	0.0%	79
Unknown	66.7%	11.1%	0.0%	22.2%	0.0%	0.0%	9
Private Provider	52.4%	19.0%	0.0%	23.8%	4.8%	0.0%	21
OB/GYN/Reproductive Health	36.6%	22.4%	35.4%	4.3%	0.0%	1.2%	161
<b>Overall</b>	<b>83.7%</b>	<b>7.4%</b>	<b>5.2%</b>	<b>2.4%</b>	<b>0.7%</b>	<b>0.5%</b>	<b>1278</b>

\*Excludes cases with missing or no treatment information

<sup>†</sup> May include schools, jails/prisons, non-public clinics, etc.